

15th National Transfer Account Global Meeting

The Quality-Quantity Trade-Off in Education: Comparing Education Transfers and Fertility in Asia and Europe

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Defining the Quantity-Quality Trade Off

The **Quality-Quantity Trade-Off (QQT0)** is an economic theory that suggests parents face a trade-off between the number of children they have and the level of investment they can make in each child's human capital, particularly in areas such as education and healthcare. (Becker and Lewis, 1973)

Research Questions:

The analysis examines whether higher levels of concern over education correlate with higher proportions of private education transfers.

1. What are the differences in the quantity–quality trade-off between societies in Asia and Europe in terms of educational expenditure transfers?
2. Could societal attitudes toward education influence the proportion of private education transfers?

Research Methodology

•Data Sources:

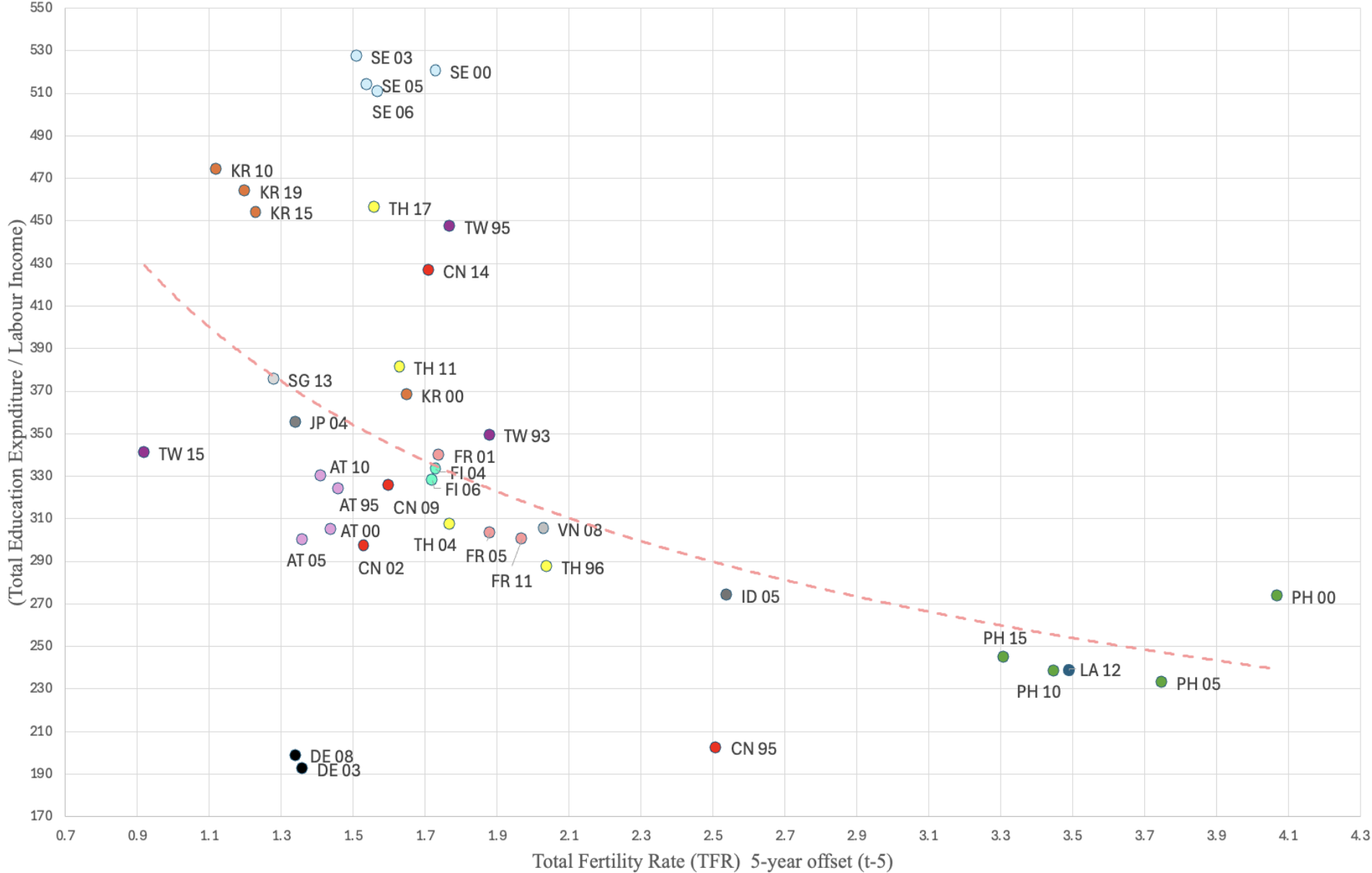
- **NTA (National Transfer Accounts):** Public and private education expenditure of each society relative to labor income.
- **WVS (World Values Survey):** Parental concerns about education.
- **UN Population Data:** Total Fertility Rate (TFR) (t-5 years offset).

•Data Processing:

- Extraction of education expenditure and TFR data by country and year.
- Ratio of education expenditure to labor income (ages 30-49).
- Use of WVS Wave 6 (2010-2014) to measure societal attitudes.

Figure 1: Relationship between Total Education Expenditure Transfers from Labour Income and the Total Fertility Rate

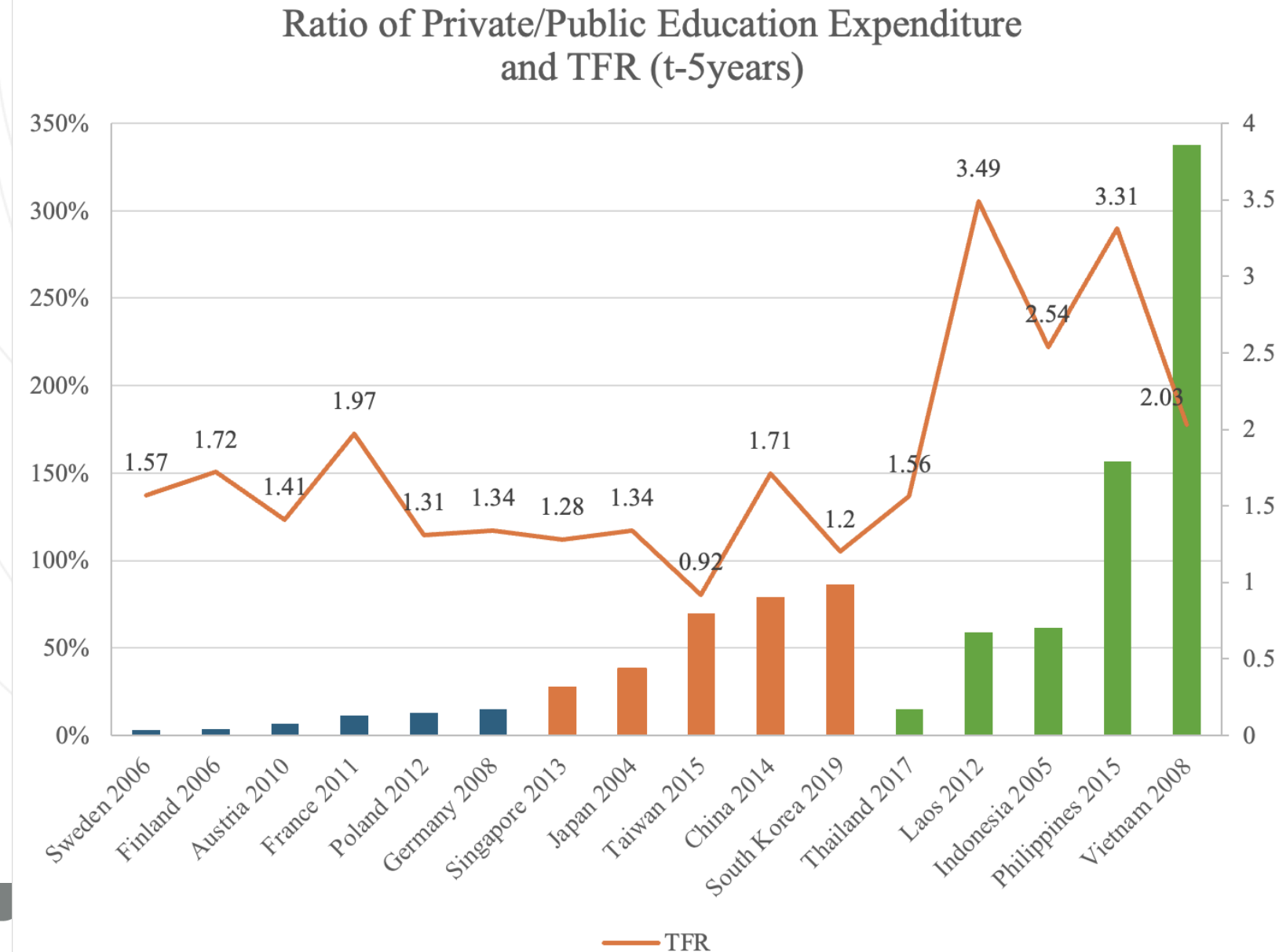
Ratio of Total Education Expenditure plotted against Total Fertility Rate (t-5 years)



Key Findings:

- Negative relationship
- Societies with higher education expenditure tend to have lower fertility rates.

Figure 2: Ratio of Private to Public Education Expenditures of most recent society-level data against TFR

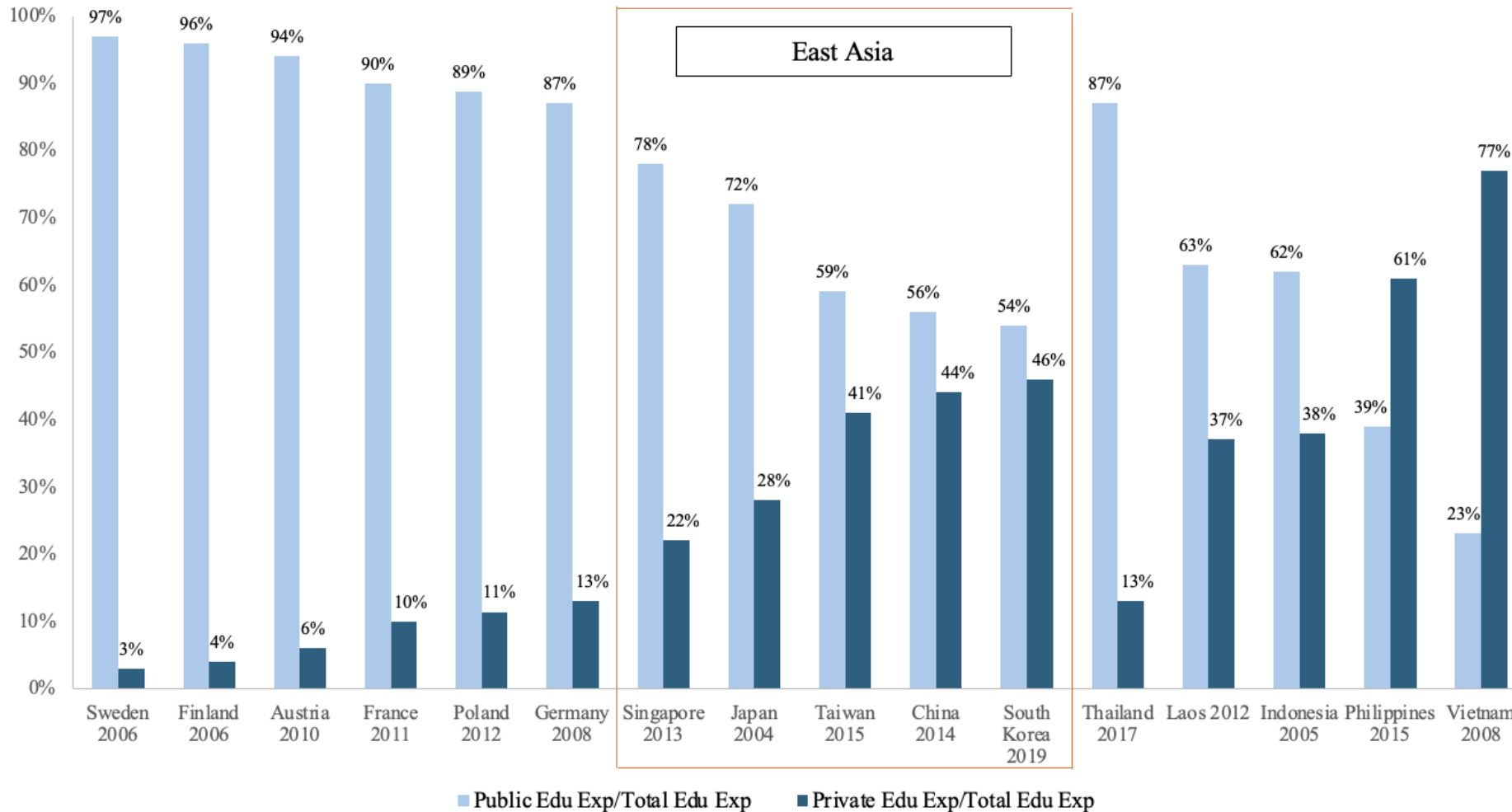


Key Observations:

- Higher Private Spending in East Asia (South Korea, Taiwan, China, Singapore).
- Higher Public Spending in Europe (Sweden, Germany, France).
- Southeast Asia (Philippines, Malaysia, Thailand) also exhibits high private spending.

Figure 3: Proportion of Public Education Expenditure vs Private Education Expenditure

Public vs. Private Transfers of Total Education Expenditure Across Societies



Key Observations:

Europe maintains consistently high public education expenditure.

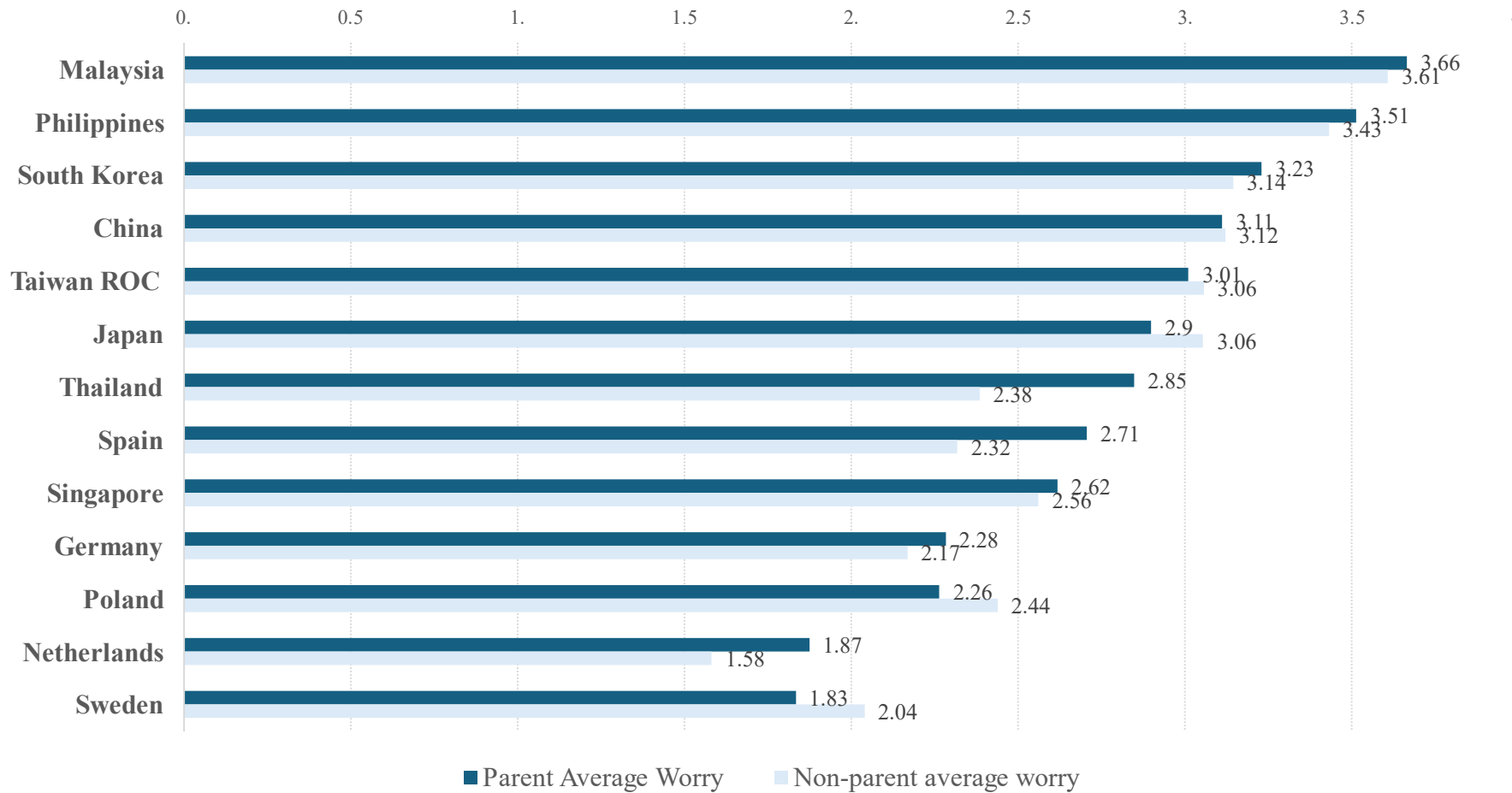
Asia sees fluctuations with public education expenditure, with some countries increasing investment overtime

Private spending is significantly higher in both East Asia and Southeast Asia than in Europe.

While public education spending in East Asia is comparable to Europe, private education expenditure is significantly higher, indicating a greater reliance on private investment despite substantial public funding.

Figure 4: Average worry about not being able to provide a children with a good education – parent vs non-parent

In Asia, parents and non-parents are almost equally worried about providing children a good education compared to Europe



Derivation:

Manipulating using STATA to get the average worry score:

"Very much" = 4

"A great deal" = 3

"Not much" = 2

"Not at all" = 1

Key Observations:

- Asian parents exhibit **higher levels of concern** compared to European parents.

- Worry levels are significantly correlated with private education spending.

Regional Aggregates: Worry and Ratio of Private to Public Education Expenditure

Figure 5.1: Regional Aggregates of worry about not providing children with good education

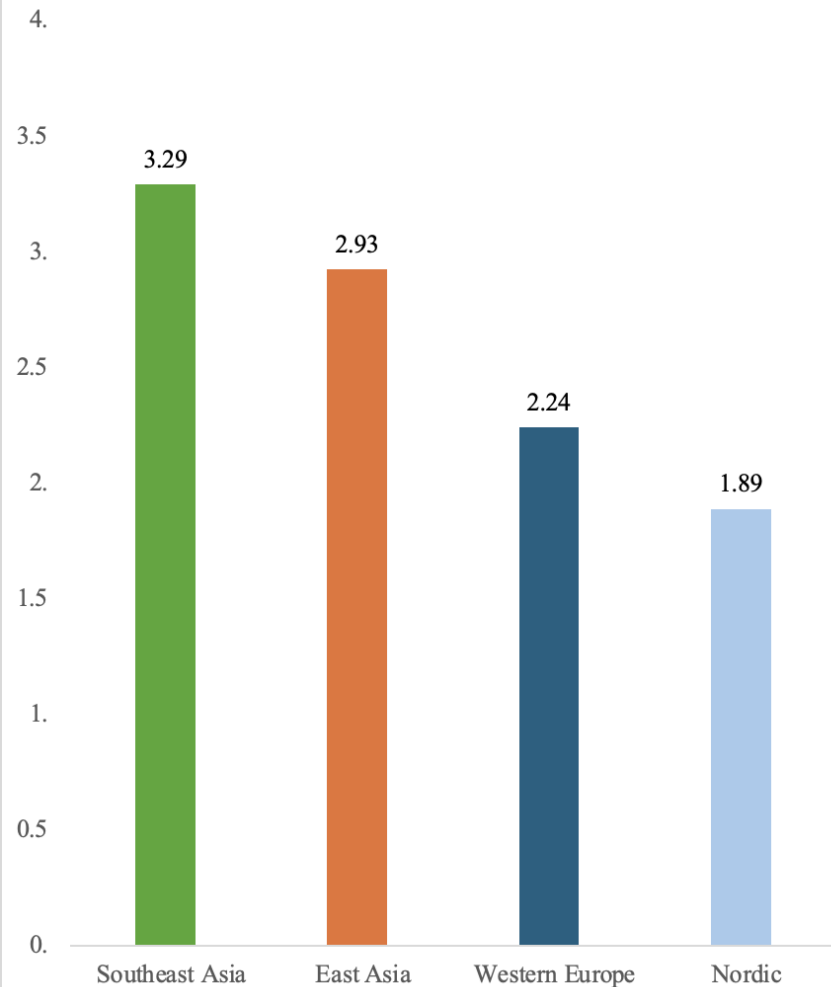
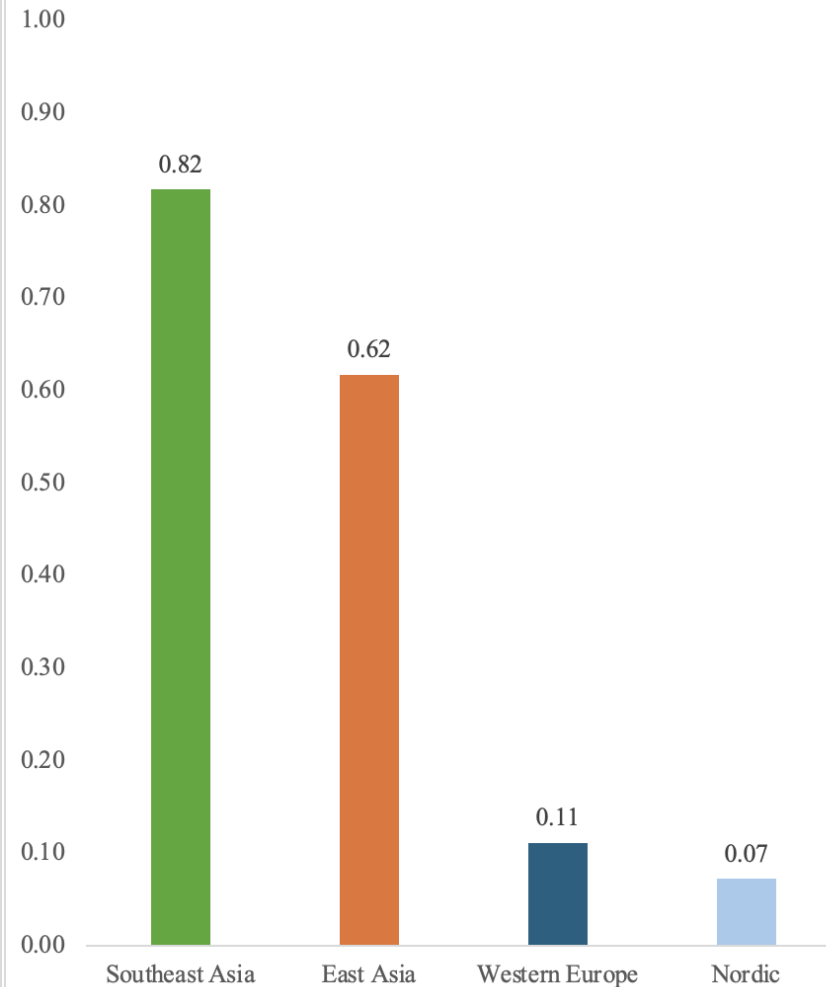


Figure 5.2: Regional Aggregates of (Private/Public) Education Expenditure ratio



Key Observations:

- Higher concern in East Asia and Southeast Asia correlates with greater private education spending.
- Western European and Nordic countries show lower concern and higher public spending.

Implications of education anxiety in East Asia

1. Intensified Education Anxiety due to increasing “education fever”

- East Asian families, particularly students face intense academic pressure, leading to stress, anxiety, and poor mental health due to long study hours and high parental expectations (Seth, 2002; Kim & Bang, 2017)
 - Academic stress contributes to youth suicides, particularly in South Korea, Japan, Hong Kong and China, where academic competition is extreme (Korea Times, 2012; South China Morning Post, 2023; The Straits Times, 2023)

2. Socioeconomic Inequality in Education Outcomes

- Higher-income families have the ability to send their children to private education centres, contributing to a widening achievement gap between students from higher income (Kim, 2014; Nomi, 2016; Bray, 2016)

3. Government Interventions

- Singapore’s exam reforms and ongoing discussions to regulate tuition centres’ marketing strategies to be less anxiety-inducing. Effectiveness will remain to be seen. (Ang, 2025)
- Policies like China’s tutoring ban (*Shuang Jian*) was implemented in 2021 (The Straits Times, 2021)
 - Led to the growth of underground/black market tuition agencies, parents are still as anxious, if not more anxious (The Straits Times, 2024)

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Q&A